

Amendments to the Claims:

Please cancel claims 1-15 and amend claims 16, 18, 20, and 22. Following is a complete listing of the claims pending in the application, as amended:

1-15. (Canceled).

16. (Currently Amended) A system for depositing material onto a workpiece in a reaction chamber, the system comprising:

a reaction chamber;

a first-mainline coupled to the reaction chamber, the first-mainline having a first branchline and a second branchline each downstream from the reaction chamber;

a first trap in the first branchline to collect byproducts from the reaction chamber;

a second trap in the second branchline to collect byproducts from the reaction chamber;

a throttling valve in the second branchline;

a pressure monitor to determine the a pressure difference between the a pressure in the first-mainline upstream from the first trap and the a pressure in the first-mainline downstream from the first trap;

a vacuum pump coupled to the first-mainline; and

a controller operably coupled to the pressure monitor and the throttling valve, the controller having a computer-readable medium containing instructions that cause the controller to perform a method comprising –

exhausting byproducts from the reaction chamber through the first trap in the first mainlinebranchline; and

determining the pressure difference across the first trap caused by a flow of the byproducts by monitoring the pressure monitor;

dynamically controlling the flow of byproducts into the second trap in the second branchline by regulating the throttling valve; and

maintaining the pressure differential across the first trap in the first mainline within a desired range based on the determined pressure difference.

17. (Original) The system of claim 16 wherein the first branchline and the second branchline are configured in a parallel arrangement.

18. (Currently Amended) The system of claim 16 wherein:

the first-mainline further includes a third branchline and a fourth branchline each downstream from the first and second branchlines;

the vacuum pump comprises a first vacuum pump coupled to the third branchline; and

the system further comprises a second vacuum pump coupled to the fourth branchline.

19. (Original) The system of claim 16 wherein the throttling valve comprises a first valve, and wherein the system further comprises a second valve in the first branchline upstream of the first trap and a third valve in the first branchline downstream of the first trap.

20. (Currently Amended) A system for depositing material onto a workpiece in a reaction chamber, the system comprising:

a reaction chamber;

a first-mainline coupled to the reaction chamber, the first-mainline having a first branchline and a second branchline each downstream from the reaction chamber;

a first trap in the first branchline to collect byproducts from the reaction chamber;

a second trap in the second branchline to collect byproducts from the reaction chamber;

a throttling valve in the second branchline;

a pressure monitor to determine ~~the~~ a pressure difference between ~~the~~ a pressure in the ~~first~~-mainline upstream from the first trap and ~~the~~ a pressure in the ~~first~~-mainline downstream from the first trap;
a vacuum pump coupled to the ~~first~~-mainline; and
a controller operably coupled to the pressure monitor and the throttling valve, the controller having a computer-readable medium containing instructions that cause the controller to perform a method comprising –
exhausting byproducts from the reaction chamber through the first ~~mainline~~branchline;
collecting byproducts in the first trap in the first branchline;
monitoring the difference between the pressure in the ~~first~~-mainline upstream of the first trap and the pressure in the ~~first~~-mainline downstream of the first trap; and
regulating the throttling valve in the second branchline in response to the monitored pressure differential in the ~~first~~-mainline to flow byproducts into the second branchline; ~~to~~ and
maintaining the pressure differential in the ~~first~~-mainline within a desired range by regulating the throttling valve.

21. (Original) The system of claim 20 wherein the first branchline and the second branchline are configured in a parallel arrangement.

22. (Currently Amended) The system of claim 20 wherein:
the ~~first~~-mainline further includes a third branchline and a fourth branchline each downstream from the first and second branchlines;
the vacuum pump comprises a first vacuum pump coupled to the third branchline; and
the system further comprises a second vacuum pump coupled to the fourth branchline.

23. (Original) The system of claim 20 wherein the throttling valve comprises a first valve, and wherein the system further comprises a second valve in the first branchline upstream of the first trap and a third valve in the first branchline downstream of the first trap.

24-45. (Canceled).